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# Does Involvement of Military Government Affects FDI Inflow in Pakistan?

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## Abstract

The purpose of this study is to investigate the role of inflation, exchange rate uncertainty, gross domestic product (GDP) and presence of military government in FDI inflows in Pakistan. Annual data from the 1991-2013 is used to validate the results of the studied variables by using OLS regression. According to the expectations inflation, exchange rate and GDP are significant determinants of the FDI in Pakistan during the period of the study but the presence of military government (MG) has no significant effect on the inflow of the FDI in Pakistan.

## Keywords

Foreign Direct Investment (FDI), Exchange Rate, Military Government, GDP, Inflation and Developing Countries (DCs).

## Introduction

During the last few decades foreign direct investment has been the point of discussion for the researchers in the area of Finance and Economics. The role of foreign direct investment (FDI) is significant in the growth and development of a country (Choe; 2003). Capital investments, job availabilities, managerial capabilities and modern technology are the key benefits provided by the FDI in the developing countries; all these factors leads to economic growth and development in the long run (Wafure and Nurudeen; 2010).

Developing countries are keen to attract the foreign investments in order to enhance the industry which leads to economic growth of the country. Majority of the developing

countries are formulating and amending their policies according to the viability of the FDI in the country and to make it convenient for the foreign investors to invest in best interest of the economy. Some of the developing countries are very successful in attracting the FDI and consequent the strong economic growth but on the other hand majority of the developing countries are facing problem of inadequate FDI flow. Due to this problem the less developed countries are not able to catch yield in the economic growth. So the problem of less inflow FDI leads to the investigation of the factors that are the main hurdles in FDI inflow. It is the common phenomenon of the DCs that the gap between saving and investments; and it is never easy to fill the gap with the available resources. FDI is a key solution to fill that gap and sponsor different opportunities for the economy by transferring advanced technology, sense of competition and creation of employment. FDI is just like the backbone for the DCs which is key factor in empowering their growth at national as well as at international markets. So the FDI is essential for all DCs and they are trying to attract by all possible actions (Afza and Zeshan, 2013). Pakistan is one the third world country in this region and facing many problems since its birth. Internal funds and investments are not enough for the desired economic growth, so FDI is necessary to compliment the internal investments to achieve the desired level of economic growth by strengthening the industry, latest methods of production, developing dynamic managerial skills to promote employment opportunities in Pakistan.

In last couple of years the Pakistan's economy is under severe crises, it can be judged by the fact revealed by the Economic survey (2010-11); there is decrease in investment to GDP ratio from 222.5% to 13.4% during the 2006-07 to 2010-11, due to which the unemployment level significantly increases in the country.

### Significance of the Study

As FDI is the key investment tool for DCs and for the policy makers it is essential to consider all the possible reasons which are main hurdles in the way of smooth inflow of FDI particularly for the economy of Pakistan. In this study the role of military government in affecting the FDI inflow is determined by considering the exchange rate uncertainty, GDP growth rate and inflation. By keeping in view the current economic situation and the flow FDI the possible reasons can be determined by analyzing the literature on the issue in the following section of the paper and after that the research methodology, data and statistical techniques ,results, interpretations and conclusion are given respectively.

### Literature Review

In many theories and models the FDI determinants are explained in last few decades. Both theoretical and empirical research has been made for the motivation of FDI and the establishment of the MNC's and different variables are explored to explain the possible reasons of inflow of FDI. In a study by Tcha (1999) in Australia the impact different macro variables on FDI is checked and exchange rate was significantly influencing the FDI. In another study by Yang et al. (2000) in Australia the determinants of the FDI were analyzed by using quarterly data and the interest rate and inflation were the significant

determinants of FDI. A research conducted by Moolman et al. (2006) on determinants of FDI in South Africa, FDI data from 1970 to 2003 was used to validate the results. Exchange rate, market size and infrastructure were found significant in affecting the FDI inflow. Policy makers should consider these variables while designing the policy regarding the FDI inflow in South Africa. Sinha (2007) studied the comparative analysis of two economies (India & China) and their FDI determinants and found India is more developed in attracting the FDI inflow due to the availability of human capital, less political instability and consistent economic policies as compared to the China.

Fedderke and Romm (2004) also explored FDI determinants South Africa; they found that the prominent variables in attracting FDI were political instability, market size, trade openness, corporate tax rates and human capital. The human capital and trade openness are positively related to the inflow of FDI in short run but inflation rate and exchange rate are negatively related to the FDI in short run and long run in Kenya (Elijah, 2006). GDP growth rate, friendly investment conditions and infrastructure successfully attract FDI, these variables are used by the Mottaleb in 2007 and he used the OLS regression to validate the results by taking the data from the 60 countries from 2003 to 2005.

Lodhi et al. (2013) analyzed that there is very positive impact of electricity production, capital formation and GDP on FDI in Pakistan. In this research they also emphasize that industrial value addition also affected the FDI in Pakistan in short run period. Government of Pakistan should encourage the local investors to invest the money in Pakistan by giving some rebate on taxes then foreign investors will come to invest here. The major hindrance in the way of attracting FDI in Pakistan is the shortage of electricity and terrorism. It is the need of the hour that The Govt. Of Pakistan should make corrective measures to remove mentioned obstacles to attract FDI in Pakistan.

Alam & Shah (2011) investigated that the FDI has lot of significance for the host country. They found the potential determinants of FDI for a panel of Ten OECD member countries. These countries include Australia, Belgium, Canada, France, Italy, Japan, Norway, Spain, the UK and the USA. For a list of potential determinants i.e. labor cost, labor productivity, market size, natural resource intensity, external debt, political stability, quality of infrastructure, corruption practices, tax rates, openness, inflation, real effective exchange rate and many more having significantly contributed to the FDI both in short and long run period. The statistical results show that the countries having low labor costs preferred by investors in order to reduce the cost of productions. Market size and quality of infrastructure also play very important role to attract the FDI.

Habib & Sarwar in (2013) found that there is long run significant relationship between FDI and employment level in Pakistan. Some other factors that also play important role in achieving employment level in Pakistan are foreign exchange rate, GDP per capita. The time span covering 1979 to 2013 by using Johanson Co-integration approach to analyze the long run relationship. The statistical results show that there is positive relationship at 5% significant level. In a study by Awan et al. (2011) in Pakistan the major economic indicators are studied to explain the FDI by taking the data 1996 to 2008 and using the co integration technique with ECM error correction model. GDP growth rate, trade openness, per capita income and foreign reserves are found significant and most affecting variables on FDI.

The determinants of FDI in Pakistan were also studied by Hakro and Gumro in (2011) for the period of 37 years from 1970 to 2007. They divided the determinants in four distinct categories and tested the effect of each category on inflow of FDI in Pakistan.

In first category (foreign exchange rate, wage rate and interest rate); in second part (economy's openness and liberalization) in third Category macroeconomic variables were discussed (human capital, infrastructure quality and market size). Hakro and Gumro went on studying the fourth category which includes the measure on political stability of the country and amount of risks which were pose to the economy altogether due to uncertain events like the dictatorial rule by the then Army chief in 1999 and 2001 world trade center attacks in USA. Hankro and Gumro's findings were in line of Afza and Zeshan' study in 2013. The study reflects that countries positive macroeconomic indicators along with open economy consequently lead to the FDI positively (Hankro & Gumro (2011)).

According to Afza & Zeshan there are many factors that contributes positively or otherwise over the rate of FDI. Afza & Zeshan perform time series analysis of 20 years from 1980 to 2010. Consequently, the study proves that the power generation, size of the market, barrier in trade and stable currency rates affects positively on the FDI. Afza and Zeshan asserts that law & order of the country, political turmoil with increasing consumer price index does not impact on foreign direct investment of the country Afza & Zeshan (2013).

Assertions from the study of Afza & Zeshan (2013) was the first of its kind in Pakistan context and requires further investigation. As Pakistan is in the front line of war on terrorism and with the acute shortage of electricity in the country since last many years, a fresh look at the determinants of FDI was required.

In another study the Ahmad & Malik(2013) studied the three macro-economic variables as the determinants of FDI inflow in Pakistan by using the three years (2001-03)monthly data and found that the stock market performance are positively related to the FDI while exchange rate is negatively related to the FDI inflow in Pakistan. Multiple regression analysis was used in this study after using the ADF test to check the stationarity of the data. Results suggest that the policy makers should ensure the peaceful environment, efficient market performance and stable exchange rate in order to attract the FDI inflow in Pakistan, which will leads towards the economic development.

By keeping in view the previous studies and economic conditions of Pakistan this study is aimed to hypothesize the following relations:

H1: GDP growth is associated to the FDI.

H2: Exchange rate is associated to the FDI.

H3: presence& absence of military govt. is associated to the FDI.

H4: Inflation is ne associated to the FDI.

## Research Methodology

Annual data for the studied variables is collected from different websites including State bank of Pakistan (SBP), Economy watch, Federal Bureau of Statistics of Pakistan. To check the nature of the time series data ADF test is applied and correlation matrix also calculated for the relations of the predictors and OLS regression is applied after checking the assumptions of the model with the variables of LnFDI, Inflation, GDP, Exchange rate

and presence absence of MG. The influence of the above hypothesized factors has checked by using the following model:

$$FDI = \beta_1 + \beta_2 (\text{Exchange Rate}) + \beta_3 (\text{MG}) + \beta_5 (\text{Inflation}) + \beta_6 (\text{GDP}) + \mu$$

Where

LnFDI= FDI is measured as a total foreign direct investment in million dollars.

Exchange Rate=it is measured as ratio of rupee as used by (Afza and Zeshan; 2013).

Inflation=annual inflation rate is used also used by Ahmad & Malik (2013)

GDP= Annual GDP growth rate is taken as a measure of GDP as used by (Afza and Zeshan; 2013)

MG= Presence& absence of military govt. is measured by using proxy of 0 and 1.

## Results and Discussion

First of all the stationarity of all the variables is checked because the data is time series, for this purpose (ADF) unit root test is applied in E-views and all the variables are stationary at level, which shows that the data has no problem like moving average and variance. It can be concluded that time series data is free from the issue of stationarity and OLS regression model can be applied to check the effect of predictors on the inflow of FDI. After that the diagnostics of OLS regression are applied to check that the OLS regression can be applied or not. The details of all the tools applied are given in brief.

**Table 1- Correlation Matrix**

	Exchange Rate	GDP	INFLATION	MG
EX_RATE	1			
GDP	0.1623	1		
INFLATION	-0.01804	-0.0144	1	
MG	-0.3798	0.3507	-0.4392	1

The correlation matrix given in table 1 give the results of correlation between the independence variables, all the variables are not highly correlated with each other, which means that the problem of autocorrelation do not exist in the studied predictors and this condition is necessary for the implication of the OLS regression ,which is proposed for this study.

Another pre requisite for the OLS regression is that the data should be free from the problem of multicollinearity; it is checked by variance inflation factors, the values of which should be less than 10. In this study all the variables used are individually tested and the results are given in the table 2. In table individual results are given for VIF, first of all the VIF value OF FDI is given which is 2.08, after that the value of GDP is given that is 1.17 followed by the inflation value 2.29 and after that the MG value is given which is 2.28. All the predictors has the value of VIF less than 10. it means the problem of multicollinearity do not exist in the variables.

Table 2- Multicollinearity

Variance Inflation Factors			
Sample: 1 23			
Included observations: 23			
Variable	Coefficient Variance	Uncentered VIF	Centered VIF
FDI	2.92E-12	3.975706	2.087443
GDP	9.50E-07	7.331554	1.177119
INFLATION	3.82E-07	13.69521	2.294993
MG	3.04E-05	3.749173	2.282106
C	5.03E-05	15.85007	NA

The results of OLS regression are given in table 3. the value of R-square is .72 and the value of adjusted R-square is 0.66; which shows the degree of determination of the dependent variable and the independent variables included in this model well explained the dependent variable. The model is good fit and over all significant because the probability value of F-statistic is less than 0.01.

Table 3- Regression Results

Dependent Variable: LN_FDI				
Method: Least Squares				
Included observations: 23				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.39	0.54	11.80	0.00
Exchange__Rate*	-59.42	14.25	-4.16	0.00
GDP***	0.13	0.06	2.00	0.06
Inflation*	0.10	0.03	3.26	0.00
MG	0.30	0.33	0.89	0.38
R-squared	0.72	Mean dependent var		6.81
Adjusted R-squared	0.66	S.D. dependent var		0.94
F-statistic	11.68	Durbin-Watson stat		1.26
Prob(F-statistic)*	0.0000			

(\* significant at 1%, \*\* significant at 5%, \*\*\* significant at 10%)

The individual predictors are significant in the model. Exchange rate is significant at 1%, which means that the exchange rate is affecting the inflow of FDI significantly. In other words exchange rate and FDI inflow are strongly associated with each other; this result is

in accordance with the previous study conducted by Afza & Zeshan in (2013). GDP is also significant in the model but it is significant at 10%, it means the role of GDP in attracting the inflow of FDI is also very strong the foreign investors are very touchy to invest in the countries where the GDP growth is low. So to attract the FDI the GDP has to be lever up.

Inflation is significant at 1%, which shows a high level of association with the FDI. It can be concluded that the inflation is a symbol of economic growth and incentive to the foreign investors to invest their funds to earn more and more.

At the end the presence and absence of Military government (MG) are indicating the MG has no effect on the inflow of FDI in Pakistan. In this study the data were taken for both the presence and absence of MG but it is insignificant in case of FDI. A conclusion can be drawn from this particular study that the involvement of MG is not disturbing the confidence of the foreign investors, which was ambiguity.

## Conclusion

In this study the effect of four macro-economic variables i.e. GDP, Inflation, exchange rate and MG is checked on the inflow of FDI in Pakistan by using the annual data of 23 years from 1991-2013. The results of the study are showing that the GDP, inflation and exchange rate are significantly affecting the inflow of FDI on Pakistan but the MG has no effect on the level of FDI inflow in Pakistan. The major significance of the study is that role of MG is checked on the level of FDI inflow, which was not tested before. So this is a contribution in the existing literature of the FDI. By considering these results the foreign investors can make investments in Pakistan in future and the Economy of Pakistan will grow due to the high FDI inflow.

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